

**TOPIC: PROPOSAL TO OFFER A DUAL BACCALAUREATE DEGREE  
IN BIOMEDICAL ENGINEERING AT COLORADO STATE  
UNIVERSITY**

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**I. SUMMARY**

Colorado State University (CSU) has submitted a proposal to offer a dual degree in Biomedical Engineering. The goals of this program include to provide high quality undergraduate training in biomedical engineering; retain Colorado students who would otherwise leave the state; attract out of state students; help meet the workforce and research needs of the growing biomedical industry; and attract and retain excellent bioengineering faculty who are specialized in this field.

**II. BACKGROUND**

The following is summarized from Colorado State University's request:

In this dual degree program, students will receive one degree in an existing, accredited engineering degree (in Chemical & Biological, Electrical, or Mechanical Engineering) as well as a degree in Biomedical Engineering. Biomedical Engineering is a growing field. This dual degree program will help provide the depth of a traditional engineering major and breadth of a biomedical engineering major and will also fill a void that currently exists geographically and academically.

**ROLE AND MISSION SUPPORT**

This degree supports the role and mission of Colorado State University. The statutory mission states:

*There is hereby established a university at Fort Collins to be known as Colorado state university. Colorado state university shall be a comprehensive graduate research university with selective admission standards offering a comprehensive array of baccalaureate, masters, and doctoral degree programs. C.R.S. 23-30-101*

**EVIDENCE OF NEED**

The proposed biomedical engineering undergraduate dual degree program will directly help satisfy the projected 72 percent increase in the number of required biomedical engineers by 2018 (Bureau of Labor Statistics). In Colorado, there are currently approximately 380 bioscience companies, with 16,000 bioscience jobs that

indirectly support 20,204 jobs; the numbers continue to rise.<sup>1</sup> This undergraduate program will produce high-quality, well-trained biomedical engineers who will dedicate their careers to creating advances in our ability to treat acute and chronic health conditions that directly affect the citizens of Colorado, the United States, and the world.

#### **DUPLICATION/SIMILAR PROGRAMS IN THE STATE**

There exist informal programs in bioengineering at the University of Colorado, Boulder (CU-Boulder) and the Colorado School of Mines (CSM). The bioengineering initiative at CU-Boulder does not include a formal undergraduate degree-granting program. CSM offers a program in Bioengineering and Life Sciences (BELS) that is essentially an undergraduate minor similar to CSU's interdisciplinary studies program.<sup>2</sup> The proposed CSU program in biomedical engineering does not provide overlap or compete with existing programs at other institutions of higher learning in Colorado, and will provide students with a unique opportunity to formally pursue a baccalaureate degree in biomedical engineering.

### **III. STAFF ANALYSIS**

The Department staff has reviewed this proposed program to ensure that it meets the State's performance measures outlined in C.R.S. §23-5-129(6) (b). The program meets all performance measures set forth by the state.

### **IV. STAFF RECOMMENDATIONS**

**Staff recommends that the Commission approve the Dual Baccalaureate Degree in Biomedical Engineering to be offered by Colorado State University.**

### **V. SUPPLEMENTAL INFORMATION**

Copies of all relevant materials are on file in the Academic Affairs office and are available upon request

#### **STATUTORY AUTHORITY**

C.R.S. §23-5-129(6) (b)

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<sup>1</sup><http://www.cobioscience.com/factsheet.php>

<sup>2</sup> <http://www.mines.edu/Academic/bels/>